OCTOBER 2019

Market perspectives
Vanguard’s monthly economic and market update

KEY TAKEAWAYS:

- The risk of a global or major regional recession is higher than normal.
- The Fed isn’t expected to make further policy changes in 2019.
- A permanent tariff regime for U.S.-China trade is likely.
- Labor markets should remain relatively tight and unemployment rates stable in most major economies.
- The outlook for global inflation is mixed, as a weaker global growth outlook is offset by upward pressure from tariffs.

Trade tensions and policy uncertainty hamper growth prospects

- Investors are starting to worry that recession may be on the horizon. The risk of a global or major regional recession is not Vanguard’s base case, but it’s more elevated than normal.
- Vanguard expects global growth to continue softening over the next 12 months.
- We see second-half growth in the United States at 1.7% and full-year growth closer to 2.0%, with U.S.-China trade and geopolitical tensions as the key risks.
- Vanguard’s baseline case for China for the next 12 months sees the government delicately balancing growth and financial stability.
- Vanguard sees 6.1% growth for China in the second half of 2019 and 5.8% in 2020.
- We believe that China will likely set its official growth target for 2020 early next year “around 6%,” as its transition to an economy based more on services and consumption continues.
- In the euro area, Vanguard continues to see 2019 GDP growth at 0.8%. We place a 35% to 40% probability on a euro-area recession in the next 12 months as we watch closely to see if persistent weakness in manufacturing spills over into services.
- In emerging markets, we continue to see 2019 real GDP growth at 4.1%.

U.S. and China second-half growth estimates

<table>
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<th>Country</th>
<th>Growth Rate</th>
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<tr>
<td>U.S.</td>
<td>1.7%</td>
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<td>China</td>
<td>6.1%</td>
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Central banks try to thread the needle and keep their economies on track

- Vanguard sees the U.S. Federal Reserve’s 0.25% rate cut in September as the second of two “insurance” cuts intended to inoculate a resilient U.S. economy from weakness elsewhere and geopolitical concerns.
- Vanguard believes that the Fed won’t make further policy changes for the rest of the year.
- Vanguard has changed our base case for Bank of England (BoE) monetary policy to no interest-rate cuts for the rest of the year. That’s based on the significantly decreased prospect of a “no-deal” Brexit, a greater chance of expansionary fiscal policy, and better-than-expected recent economic data.
- The European Central Bank (ECB) said it would restart its asset purchase program, or “quantitative easing” (QE), at a monthly pace of €20 billion starting November 1, 2019—less than the €30 billion per month that Vanguard had anticipated.
- Given the muted inflation outlook, Vanguard believes that negative ECB rates and QE are here for the foreseeable future, with risks skewed toward a faster pace of QE should the macroeconomic outlook deteriorate further.
- In the event of further easing, Vanguard believes the Bank of Japan (BoJ) would most likely take interest rates deeper into negative territory while simultaneously introducing measures to mitigate potential side effects, such as deteriorating profits in the financial system.
- Vanguard’s base case, however, is for no BoJ policy change in October.

The latest job market numbers in the United States offer a conundrum

- Participation—the percentage of the working-age population that is employed or looking for work—was up in August, at 63.2%. The unemployment rate remained near a 50-year low, at 3.7%, and wages rose.
- Yet these signs of strength bring caveats that may deserve consideration given weaker-than-expected job-creation numbers.
- Given demographic shifts, the current unemployment rate may stay low even as job growth slows.
- Strong month-on-month wage growth of 0.4% could reflect either a long-awaited rise in wages as competition for labor intensifies or it could reflect the shaking out of typically lower-paid contract and temporary workers from the workforce—often seen in a slowing economy—skewing wages upward.
- Despite growth concerns, Vanguard expects labor markets to remain relatively tight and unemployment rates to remain stable in most major economies.

Trade tensions continue

- The U.S.-China trade picture has brightened in recent weeks, but Vanguard still sees a permanent tariff regime as our base case, owing to hard-to-resolve structural issues around U.S. access to Chinese markets and the forced transfer of U.S. technology to Chinese companies.
- Vanguard believes that the United States-Mexico-Canada Agreement will be ratified, with no further escalation in tensions, despite political disagreement in the United States over the need for labor and environmental reform in Mexico.
- Volatility related to U.S.-European trade negotiations is likely before the end of the year.
A mixed outlook for global inflation

- A weaker global growth outlook is being offset by upward pressure from tariffs.
- In the United States, we see the core Personal Consumption Expenditures Index rising in the second half of 2019 but remaining below the Federal Reserve's 2% inflation target.
- We see core inflation in the United Kingdom remaining close to 2% amid a tight labor market, but in the euro area we see monetary easing as necessary to combat low inflation expectations.

Reduced chances for a no-deal Brexit

- The latest developments suggest that the prime minister will push for a Northern Ireland-only “backstop” to secure a deal, in which Northern Ireland would continue to have a customs arrangement with the European Union while the rest of the U.K. would be free to negotiate its own trade deals.
- Should a deal not be reached and the U.K.’s exit be delayed, Vanguard sees the likelihood of a general election being called for late November or early December 2019, ahead of an expected new exit date of January 31, 2020.

Asset class return outlooks

The 10-year annualized nominal return projections, based on market conditions as of June 30, 2019, are as follows:

**Equities**
- Global equities ex-U.S. (unhedged): 6.5%–8.5%
- U.S. equities: 3.5%–5.5%
- U.S. real estate investment trusts: 2.5%–4.5%

**Fixed income**
- U.S. bonds: 1.5%–3.5%
- U.S. Treasury bonds: 1.0%–3.0%
- Global bonds ex-U.S. (hedged): 1.0%–3.0%
- U.S. credit bonds: 2.0%–4.0%
- U.S. high-yield corporate bonds: 3.0%–5.0%
- U.S. Treasury inflation-protected securities: 1.0%–3.0%
- U.S. cash: 1.0%–3.0%

These probabilistic return assumptions depend on current market conditions and, as such, may change over time.

**IMPORTANT:** The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from the VCMM are derived from 10,000 simulations for each modeled asset class. Simulations are as of June 30, 2019.

Results from the model may vary with each use and over time.

Source: Vanguard Investment Strategy Group.
All investing is subject to risk, including possible loss of principal.

Investments in bonds are subject to interest rate, credit, and inflation risk.

Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk. These risks are especially high in emerging markets.

IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More important, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

The Vanguard Capital Markets Model is a proprietary financial simulation tool developed and maintained by Vanguard’s primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic data from as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.